

QUARTERLY REPORT: 4th QTR FY 2003 (Apr-Jun '03)

Contract/Project Manager: Gary P. Gauthier

EA: 65-680821

Title of Project

DEVELOPMENT OF A NEW GUARDRAIL END TREATMENT

FHWA POOLED FUND STUDY SPR 003(043)

Describe last quarter's task/deliverables.

The concept J feasibility study of a combination frictional & elastic attenuation mechanism that would slow vehicles to a stop, and then return to its original configuration at a slower rate was conducted with LS-DYNA computer simulations. Problems with the frictional mechanism became evident, and another concept was started.

Recycled crumb rubber and polyurethane elastic cylinders were investigated as an economical alternative to the rubber cylinder "marine fender" design (concept H). It was determined that it was not possible to get close to the strength of rubber with recycled crumb rubber products. The cost would also not be that much lower.

Another concept ("L") was initiated involving collapsing, accordian-like beam elements and extension springs.

It was decided to design and build a small-scale dynamic impact device using compressed air. This will be used to test components and prototypes of the crash cushion. The initial device will be small, but eventually one will be built to project an 820 kg car at 70 km/hr.

Describe next quarter's task/deliverables and their due date.

Concept L will be further investigated, and it will be decided whether to proceed with this design.

The small prototype of the pneumatic impact device (PID) will be designed and fabrication started.

Are you on time with your schedule? ☒ YES Are you within budget? ☐ YES Are you on scope? ☒ YES
If no, please explain below. ☐ NO If no, please explain below. ☒ NO If no, please explain below. ☐ NO

Ending date has been revised to Dec 2006.
More funding may be required to complete the project.

Percentage of work completed. 20%

What is your expenditure projection for FY 2004?

First Quarter	Second Quarter	Third Quarter	Fourth Quarter
\$10,000	\$25,000	\$40,000	\$50,000